

IN THE CLAIMS:

Claim 1 (Canceled)

Claim 2 (Currently Amended) A foam dispenser drive system for a mixing module rod, comprising:

a driver; and

means for converting a rotational drive force into a linear reciprocation drive force for reciprocation of the mixing module rod functioning as a valve rod relative to one or more foam chemical passageways in a mixing module receiving the mixing module rod wherein said means for converting a rotational drive force into a linear reciprocation drive force comprises a drive transmission which includes a ~~combination~~ transmission housing and a combination crank and slide assembly, said combination comprising a crank pivotably supported by said housing and a slide apparatus.

Claim 3 (Previously Presented) A foam dispenser drive system for a mixing module reciprocation rod, comprising:

a driver; and

means for converting a rotational drive force into a linear reciprocation drive force, said means for converting a rotational drive force into a linear reciprocation drive force comprising a drive transmission which includes a transmission housing and a combination crank and slide assembly, said combination comprising a crank pivotably supported by said housing and a slide apparatus, wherein said slide apparatus comprises a connecting rod driven by said crank, and a slide member driven by said connecting rod.

Claim 4 (Previously Presented) The drive system of claim 3 wherein said slide member comprises engagement means for engagement with an end section of the reciprocating dispenser mixing module rod.

Claim 5 (Previously Presented) The drive system of claim 4 wherein said engagement means comprises an engagement slot designed to receive and retain an enlarged engagement head of the mixing module rod.

Claim 6 (Previously Presented) The drive system of claim 3 wherein said slide member is in sliding contact with a guide shoe supported by said housing and of a material of a lower friction coefficient level than that of said housing.

Claim 7 (Previously Presented) The drive system of claim 3 wherein said slide member is a multi-walled piston member in sliding contact with a pair of guide shoes supported by said housing.

Claim 8 (Previously Presented) The drive system of claim 3 further comprising a connection pin, said connecting rod having a first looped end in engagement with said crank and a second looped end, said connection pin extending into said second looped end and into engagement with said slide member.

Claim 9 (Previously Presented) The drive system of claim 8 wherein said crank includes a first crank component and a second crank component releasably interconnected with said first crank component, and said first and second components being detachable and interconnectable to provide for engagement of said crank with the first looped end of said connection rod.

Claim 10 (Currently Amended) A foam dispenser drive system for a mixing module reciprocation rod, comprising:

a driver;

means for converting a rotational drive force into a linear reciprocation drive force, said means for converting a rotational drive force into a linear reciprocation drive force comprising a drive transmission which includes a transmission housing and a combination crank and slide assembly, said combination comprising a crank pivotably supported by said housing and a slide apparatus; and first and second bearings, wherein said crank includes a first extension and a second extension, and said housing includes a first bearing reception recess receiving said first bearing and first extension and a second bearing reception recess receiving said second bearing and second extension.

Claim 11 (Previously Presented) The drive system of claim 10 wherein said housing includes a main housing section and a detachable cap housing section with said main housing section defining said first reception recess and said cap housing section defining said second reception recess.

Claim 12 (Previously Presented) The drive system of claim 2, wherein said drive transmission comprises a drive shaft in line between said driver and said combination crank and slide assembly, with said drive shaft rotating along an axis of elongation so as to drive said combination crank and slide assembly.

Claim 13 (Currently Amended) A foam dispenser drive system for a mixing module reciprocation rod, comprising:

a driver;

means for converting a rotational drive force into a linear reciprocation drive force comprising a drive transmission which includes a transmission housing and a combination crank and slide assembly, said combination comprising a crank pivotably supported by said housing and a slide apparatus, and said drive transmission comprising a drive shaft in line between said driver and said combination crank and slide assembly, with said ~~combination~~ drive shaft rotating along an axis of elongation so as to drive said combination crank and slide assembly; and ~~said combination~~ a flex coupling positioned in line between said drive shaft and said combination crank and slide assembly.

Claim 14 (Currently Amended) A foam dispenser drive system for a mixing module reciprocation rod, comprising:

a driver;

means for converting a rotational drive force into a linear reciprocation drive force comprising a drive transmission which includes a transmission housing and a combination crank and slide assembly, said combination comprising a crank pivotably supported by said housing and a slide apparatus, and said drive transmission comprising a drive shaft in line between said driver and said combination crank and slide assembly, with said drive shaft rotating along an axis

of elongation so as to drive said combination crank and slide assembly; and ~~said combination~~ a one way clutch in line between said driver and said combination crank and slide assembly.

Claim 15 (Previously Presented) The drive system of claim 14 wherein said driver is reversible in drive rotation direction and said drive system further comprising a secondary drive transmission which is activated/deactivated depending on direction of drive rotation.

Claim 16 (Previously Presented) The drive system of claim 22 wherein said driver is a DC brushless motor.

Claim 17 (Previously Presented) A foam dispenser drive system for a mixing module rod, comprising:

a driver; and

means for converting a rotational drive force into a linear reciprocation drive force for reciprocation of the mixing module rod functioning as a valve rod relative to one or more foam chemical passageways in a mixing module receiving the mixing module rod; further comprising a home sensor positioned in a drive transmission line of said means for converting, said home sensor monitoring a position status of a component in said drive transmission line.

Claim 18 (Previously Presented) The drive system of claim 2 further comprising a home sensor which senses a position of a component that is of said drive transmission or is driven by said drive transmission and positioned downstream of said crank in said combination crank and slide assembly.

Claim 19 (Previously Presented) The drive system of claim 18 wherein said driver includes an encoder.

Claim 20 (Previously Presented) The drive system of claim 22 wherein said driver includes a motor generating 10,000 lbf. of drive force on said mixing module rod.

Claim 21 (Previously Presented) A foam dispenser drive system for a mixing module reciprocation rod, comprising:

a driver;

means for converting a rotational drive force into a linear reciprocation drive force, said means for converting a rotational drive force into a linear drive force comprising a drive transmission which includes a transmission housing and a crank and slide assembly comprising a crank pivotably supported by said housing and a slide apparatus, and wherein said housing includes means for receiving a mixing module and means for feeding foam precursor chemical to said mixing module.

Claim 22 (Previously Presented) A foam dispenser drive system for a mixing module rod, comprising:

a driver; and

means for converting a rotational drive force into a linear reciprocation drive force for reciprocation of the mixing module rod functioning as a valve rod relative to one or more foam chemical passageways in a mixing module receiving the mixing module rod; wherein said linear reciprocation drive force has a linear direction coincident with a linear reciprocation of the mixing module rod reciprocated by said drive system, and said rotational drive force has a rotation axis extending in a common direction with a rotation axis of a drive shaft of said driver; and

wherein said means for converting a rotational drive force into a linear reciprocation drive force includes a combination crank and slide assembly.

Claim 23-24 (Canceled)

Claim 25 (Previously Presented) The drive system of claim 22 wherein said combination crank and slide assembly includes a sliding member with engagement means for engagement with said mixing module rod.

Claim 26 (Original) The drive system of claim 25 wherein said sliding member is a piston with a slot dimensioned for catching engagement with the mixing module rod.

Claim 27 (Previously Presented) The drive system of claim 26 further comprising a pair of guide shoes and wherein said piston is in sliding contact with said pair of guide shoes.

Claim 28 (Previously Presented) A foam dispenser drive system for a mixing module reciprocation rod, comprising:

a driver;

means for converting a rotational drive force into a linear reciprocation drive force, wherein said linear reciprocation drive force has a linear direction coincident with a linear reciprocation of a mixing module rod reciprocated by said drive system, and said rotational drive force has a rotation axis extending in a common direction with a rotation axis of a drive shaft of said driver, said means for converting a rotational drive force into a linear reciprocation drive force includes a combination crank and slide assembly; a dispenser transmission housing, and wherein said combination crank and slide assembly includes a crank driven by said driver, a connection rod having a first end in connection with a crank pin section of said crank and a second end in engagement with a slider member of said combination crank and slide assembly.

Claim 29-41 (Canceled)

Claim 42 (Previously Presented) A foam dispenser drive system for reciprocation of a foam dispenser purge rod, which reciprocates in a foam chemical reception area of a dispenser, comprising:

a driver;

a crank assembly in driving communication with said driver, and said crank assembly having an engagement section which engages the purge rod in use, and said driver having sufficient power to break adhesive bonds that form between the purge rod and a foam chemical reception area of said dispenser and wherein said crank assembly includes a crank driven by said driver, a connection rod having a first end in connection with a crank pin section of said crank and a second end in engagement with a slider member, which said slider member provides said engagement section.

Claim 43 (Previously Presented) The drive system of claim 42 wherein the purge rod functions also as a valve rod relative to foam chemical precursor conduits feeding into a mixing chamber of said dispenser for supplying foam precursors to said dispenser.